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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,825	04/12/2001	Kazunori Kaneda	Q64042	1925

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EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 10/28/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/832,825

Applicant(s)

KANEDA, KAZUNORI

Examiner

Justin R Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 11, 13 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 11, 13 and 15-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 11, 13, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto (US 4,714,734, of record) and further in view of Fukuhara (JP 2000-17115). Hashimoto is applied in the same manner as set forth in Paper Number 9, Paragraph 7.

As best depicted in Figure 1, Hashimoto discloses a pneumatic tire construction incorporating (a) at least one composite layer or carcass ply 7 formed of a coating rubber composition and reinforcing cords and (b) at least one squeegee rubber or rubber reinforcing layer S comprising a rubber composition which adjoins to said composite layer, wherein said rubber reinforcing layer contains an inorganic filler, such as hydrotalcite (Column 10, Lines 25-53 and Column 13, Lines 45-60). In describing the carcass ply 7, Hashimoto only states that the carcass is composed of a reinforced cord and has an angle of between 70 and 90 degrees with respect to the equatorial plane of the tire (approximately radial)- the reference fails to describe the reinforcing cords as being metal and/or textile. In any event, one of ordinary skill in the art at the time of the invention would have found it obvious to form the carcass of Hashimoto with steel reinforcing cords since these cords are extensively used in a wide variety of tire

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carcass plies due to their high strength characteristics, it being emphasized that the critical feature of Hashimoto is not the material used as the carcass reinforcement cord (as evidenced by the complete silence regarding the material) but rather a unique rubber composition S that provides good strength, good resistance to hot water, good thermal conductivity, and good processability. As to the quantity of hydrotalcite used, one of ordinary skill in the art at the time of the invention would have recognized the broad range of the claimed invention as defining well known quantities of inorganic fillers used in tire rubber compositions and thus, it would have been obvious to include hydrotalcite in an amount between 0.1 and 20 phr absent any conclusive showing of unexpected results. It is noted that carbon black is the primary filler in the rubber composition of Hashimoto and is included in a preferred amount between 2 and 100 phr, such that one of ordinary skill in the art at the time of the invention would have readily appreciated and expected the inorganic filler (secondary filler) to be included in a smaller amount and within the broad range of 0.1 and 20 phr. Lastly, as to the specific formula for hydrotalcite, Fukuhara evidences that the claimed formula is consistent with that which is commonly used, particularly in tire rubber compositions.

Regarding claims 11, 13, 15, and 17 as set forth above, the tire reinforcing member of Hashimoto is a tire carcass ply. Furthermore, while Hashimoto fails to identify a specific tire, one of ordinary skill in the art at the time of the invention would have found it obvious to use the tire design of Hashimoto in the manufacture of heavy-duty tires, it being recognized that the properties of good strength and good processability are desired in a wide variety of tires, including heavy-duty tires. It is

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noted that the description of a passenger car tire in Column 20, Lines 18-22 is only exemplary- the reference in now way attempts to limit the use of the inventive rubber composition to passenger car tires. In view of the benefits detailed by Hashimoto, one of ordinary skill in the art at the time of the invention would have readily appreciated the tire design of Hashimoto as being applicable to off-road or heavy-duty tires.

3. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto and Fukuhara as applied in claims 2 and 16 above, respectively, and further in view of Kobayashi (US 5,965,640, newly cited), Nosu (US 5,464,896), and the Admitted Prior Art (Page 5, Lines 13-15).

As previously stated, Hashimoto in view of Fukuhara teach a tire construction comprising a composite layer and an adjacent squeegee rubber containing a hydrotalcite reinforcing material. The references, however, are silent as to what specific type of hydrotalcite is used. In any event, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite in which the crystal water has been removed since such a material is commonly used in a wide variety of industries. For example, Kobayashi (Column 13, Lines 5-10) and Nosu (Column 2, Line 42 – Column 3, Line 15) illustrate the extensive use of hydrotalcite in which the crystal water had been removed, it being particularly noted that Kobayashi is directed to the use of such a material in a rubber composition. Also, the Admitted Prior Art discloses that the claimed hydrotalcite was purchased from Kyowa Chemical Industry, Co., Ltd, further suggesting that hydrotalcite with crystal water removed was a well known material prior to the date of the claimed invention. As such, one of ordinary skill in the

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art at the time of the invention would have found it obvious to use hydrotalcite having no crystal water in the squeegee rubber composition of Hashimoto. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the use of such a hydrotalcite.

Response to Arguments

4. Applicant's arguments filed October 16, 2003 have been fully considered but they are not persuasive. In light of the amendment to the independent claim (incorporation of dependent limitations 5 and 8), the rejections involving Fukuhara and Matsumoto as the primary reference have been removed. However, the rejections using Hashimoto as the primary reference remain applicable.

Regarding the reinforcing elements of the carcass ply, applicant contends that the tire of Hashimoto is for use in a car (passenger) and one would have recognized that an organic fiber cord has been used in such constructions. First, Hashimoto is not solely directed to passenger car designs- the embodiment in which a passenger car tire is described is only exemplary. It is clearly evident that the critical issue of Hashimoto is the specific squeegee rubber composition and one of ordinary skill in the art at the time of the invention would have readily appreciated and expected the tire design of Hashimoto to be applicable in a large number of tires. Second, contrary to applicant's statement, both steel and organic fiber cords have been used in passenger car tires and additional tire constructions. In particular, steel is recognized as a common carcass reinforcing material having high strength characteristics. Although applicant contends that the adhesion method of the claimed invention is unique to steel and thus is different

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from that disclosed by Hashimoto, the claims as currently drafted do not require hydrotalcite in the coating rubber composition of the carcass ply (composite ply)- the claims require hydrotalcite in the squeegee rubber. In this same regard, applicant has not provided a conclusive showing of unexpected results (improved adhesion properties) that establishes a criticality for the inclusion of hydrotalcite in a squeegee rubber composition that is adjacent a composite ply formed of steel cords. **As stated in Paper Number 9, Paragraph 9, the results of Table 2 are not persuasive since the quantity of magnesium oxide and hydrotalcite is varied between rubber compositions and as such, it is unclear if the realized benefits should be attributed to the quantity of the inorganic filler or the specific inorganic filler. This point is especially true in light of the comparison of Examples 1 and 4, wherein the composition having magnesium oxide (Example 4) provides improved resistance to adhesion loss as compared to the composition having hydrotalcite (Example 1). The Examples 1-4 suggest that the relevant factor in determining the degree of resistance to adhesion loss is the amount of inorganic filler and not the specific inorganic filler.**

As to the arguments regarding Nguyen, applicant has cancelled the relevant claims.

Regarding the discussion of the rubber composition layer, it is agreed that the claims are clear.

Conclusion

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5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin R Fischer whose telephone number is (703) 605-4397 (if after December 22, 2003, (571) 272-1215). The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Justin Fischer

October 23, 2003


JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300